DROZD, Vladimir Petrovich; STRZHALKOVSKIY, Ye.G., red.; ROTENBERG, A.S., red.izd-va; PUL'KINA, Ye.A., tekhn.red.

[New demountable temporary structures] Novye inventarnye vremennye sooruzheniia. Leningrad, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam. 1958. 57 p. (MIRA 12:1)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Strzhalkovskiy).
(Buildings, Prefabricated)

STRZHALKOVSKIY, Yevgeniy Genrikhovich, IVANOV, Aleksandr Konstantinovich, MARKUS, B.M., red.; PUL'KINA, Ye.A., tekhn.red.

[Use of advanced types of reinforced concrete elements in building] Vnedrenie progressivnykh zhelezobetonnykh konstruktsii v stroitel'stvo. Leningrad, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1958. 100 p. (MIRA 11:9)
(Reinforced concrete construction)

STRZHALKOVSKIY, Ye.G.

Urgent tasks. Biul. tekh. inform. 4 no.1:1-3 Ja '58. (MIRA 11:2)

1. Nachal'nik Glavleningradstroya, chlen-korrespondent Akademii i arkhitektury SSSR.
(Leningrad--Construction industry)

STRZHALKOVSKIY, Ye.G.

Decisions of the 21st Congress of the CPSU are a militant program for the establishment of communism. Biul.tekh.inform. 5 no.1:1-2 Ja '57. (MIRA 12:4)

1. Zamestitel' predsedatelya Lengorispolkoma.
(Leningrad--Construction industry)

STRZHALKOVSKIY, Ye.G.

Preparing new areas for building operations to be carried out by housing construction combines. Biul.tekh.inform.po. stroi. 5 no.10:3-4 O '59. (MIRA 13:3)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR.
(Leningrad--Precast concrete construction)

STRZHALKOVSKIY, Yevgeniy Genrikhovich; LEPIN, A.E., red.; LEVONEVSKAYA, L.G., tekhn.red.

[New methods for organizing the industrialized housing construction; housing construction combines in Leningrad] Novye metody organizatsii industrial'nogo domostroeniia; domostroitel'nye kombinaty Leningrada. Leningrad, Lenizdat, 1960. 53 p. (MIRA 13:6)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Strzhalkovskiy).
(Leningrad--Precast concrete construction)
(Apartment houses)

STRZHALKOVSKIY, Yevgeniy Genrikhovich; MOLCHANOV, R.S., kand.tekhn.nauk, nauchnyy red.; KAPLAN, M.Ya., red.izd-va; VOROHETSKAYA, L.V., tekhn.red.

[Housing construction combines, a new method of the organization of construction] Domostroitel'nye kombinaty - novyi metod organizatsii stroitel'stva. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 173 p. (MIRA 13:12)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Strzhalkovskiy).
(Precast concrete construction)

STRZHALKOVSKIY, Yo.G.

The product manufactured by a housing construction combine is a finished house. Izv. ASiA no.2:42-48 '61. (MIRA 15:1)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR.

(Apartment houses)
(Leningrad--Construction industry)

STRZHALKOVSKIY, Ye.

Science serves technological progress in construction.
Na stroi. Ros. no.10:19-22 O '61. (MIRA 14:11)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR, rukovoditel' Leningradskogo filiala Akademii stroitel'stva i arkhitektury SSSR.
(Leningrad--Building--Technological innovations)

STRZHALKOVSKIY, Ye.

Let's improve the work of the housing construction combines. Zhil. stroi. no.11:13-15 N '61. (MIRA 16:7)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR.
(Leningrad—Precast concrete construction)

STRZHALKOVSKIY, Ye.G.

The Leningrad Branch of the Academy of Construction and Architecture. Izv. ASiA 4 no.2:128-130 '62. (MIRA 15:9)

1. Rukovoditel' Leningradskogo filiala Akademii stroitel'stva i arkhitektury SSSR.
(Leningrad—Construction industry)

STRZHELETSKIY, E., prof.

Institute of National Economy in the Polish People's Republic. Biul.nauch.inform.; trud i zar.plata no.8:65-66 '59. (MIRA 13:1)

1. Direktor Instituta obshchestvennogo khozyaystva. (Warsaw--Economic research)

1. STRZHEMECHNYY, A. A., OKUN', M. A.

2. USSR (600)

4. Iron Founding

7. Using quick-drying mixtures. Lit proizv No. 12 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

L 3157-66 EWT(1)/EPF(c) IJP(c) WW/GG

ACCESSION NR: AP5016048 UR/0368/65/002/005/0440/0446
535.376

AUTHORS: Pargamanik, L. E.; Strzhemechnyy, M. A.; Tsirlin, Yu. A.

TITLE: Passage of light through a dispersed detector

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 5, 1965, 440-446

TOPIC TAGS: light transmission, scintillation detector, light diffusion, light dispersion

ABSTRACT: This is a continuation of earlier work by the authors (Opt. i spektr. v. 12, 304, 1962), where it was shown that the propagation of the light of scintillations produced in a layer of dispersed detector can be treated as a process of photon diffusion and described with the aid of the diffusion equation. Whereas the earlier investigation was devoted to propagation of light through the thin layer from a source located on the boundary or outside the layer, in the present paper the authors consider the propagation of scintillations produced inside a layer of finite thickness, bounded by surfaces with different

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L 3157-66
ACCESSION NR: AP5016048

reflection coefficients. The scintillation light is produced by ionization and is recorded with photomultiplier having a constant integration time. Two limiting cases, when the integration time is much larger than or much smaller than the time interval between successive scintillations, are considered. In the first case, the problem consists of finding the optimal coefficient of light gathering, and in the second it consists of finding the optimal light flux density through the boundary. The results are found to be in satisfactory agreement with the experimental data on ZnS(Cu) scintillator. Orig. art. has: 2 figures, 14 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 06Jul64 ENCL: 00 SUB CODE: OP

NR REF SOV: 002 OTHER: 001

Card 2/2

STRZHIZH, Vitezslav Striz, Vitezslav . MILLER, B.V.[translator].
FRZHIGODOVA, [illegible], red.

[Catalog of electron tubes. Translated from the Czech]
Katalog elektronnykh lamp. Izd.2., stereotipnoe. Praga,
Gosizdat tekhn. lit-ry, 1964. 659 p. (MIRA 18:4)

STRZHIZHOVSKIY, A.D.

Local reactions of tissues to radiation. Biofizika 5 no. 6:720-727 '60. (MIRA 13:10)

(RADIATION—PHYSIOLOGICAL EFFECT)
(REGENERATION (BIOLOGY))

STRZHIZHOVSKIY, A.D.

Effect of ionizing radiation on the mitotic activity of cell populations during the stage of exponential growth. Radiobiologiia 1 no.1:104-111 '61. (MIRA 14:7)
(RADIATION--PHYSIOLOGICAL EFFECT)
(CELL DIVISION (BIOLOGY))

30344

S/205/61/001/004/001/032
D298/D303

27.1220

AUTHOR: Strzhizhovskiy, A. D.

TITLE: The reaction of the mechanisms which regulate mitotic activity to radiation

PERIODICAL: Radiobiologiya, v. 1, no. 4, 1961, 469-475

TEXT: This is a mathematical analysis of the general structure and characteristics of the mitosis regulating system and its response to the inhibition of mitosis by radiation. The problem is studied from 4 distinct aspects: natural variations of the regulating system; the structure of the radiation compulsive force; the response of mitotic activity to pulse irradiation; and the response of mitotic activity to chronic irradiation of constant intensity. The natural variations of the system (I) are reduced to a second-order linear equation relative to the value $\xi = M(t) - M_0$.

Card 1/

The reaction of the...

$$\frac{\varrho\tau^2}{2} \cdot \frac{d^2\varepsilon}{dt^2} + (1 - \varrho\tau) \frac{d\varepsilon}{dt} + \left(\varrho + \frac{1}{\tau_M}\right) \varepsilon = 0 \qquad (8)$$

where: ε --mitotic activity; $M(t)$ --number of mitoses in any portion of tissue during the time t; M_o --balance level of mitotic activity; ϱ --positive constant for the regulation curve; τ --period of lag in the information circuit; τ_M --average duration of mitosis. [Abstracter's note: Term d is not defined.] Eq. 8 is solved by the expression:

$$\varepsilon(t) = A_1 e^{\alpha_1 t} + A_2 e^{\alpha_2 t} \qquad (9)$$

where the coefficients A_1 and A_2 are determined from the initial conditions; the indices of degree $\alpha_{1,2}$ are determined by the expression:

Card 2/[illegible]

The reaction of the...

$$\alpha 1,2 = \alpha_o \pm \delta = \frac{-(1 - \varrho\tau) \pm \sqrt{(1 - \varrho\tau)^2 - 2\varrho\tau^2 \left(\varrho + \frac{1}{\tau_M}\right)}}{\varrho\tau^2} \quad (10)$$

Analysis of Eq. (10) shows that, to achieve optimum regulation, the object and its system of regulation must be coordinated, i.e., choice of the time lag in the last in accordance with the time characteristics of the object ϱ and τ_M. The author further shows that the area of optimum regulation is intermediate between aperiodic damping and periodic oscillations. The change in the natural variations of the regulating system with increasing time lag in the information circuit is shown graphically. Radiation is viewed as a compulsive force applied to the mitosis regulation system and is expressed in Eq. (16):

Card 3/

The reaction of the...

$$\frac{\varrho\tau^2}{2} \cdot \frac{d^2\xi}{dt^2} + (1 - \varrho\tau)\frac{d\xi}{dt} + \left(\varrho + \frac{1}{\tau_M}\right)\xi = \Phi_r - \Phi_o \; ; \qquad (16)$$

$\xi(0) = \xi'(0) = 0$

where $\Phi_r - \Phi_o$ is the compulsive force caused by radiation. An equation is also given for the fraction of cells capable of mitosis. The equation is then solved for(a) brief pulsating radiation, and (b) constant chronic irradiation. The author then considers response to irradiation in small doses where the duration of mitosis inhibition is much less than the time constants of the natural variations. The response can be seen from Fig. 2. Equations are also given for the minimum value of mitotic activity ξ min., the steepness of the drop in mitotic activity tg β, and the restorative process. Mitosis response to prolonged pulsating irradiation can be seen from Fig. 3. The response of mitotic activity to chronic irradiation consists in transition from a stationary $\xi = 0$ to a new stationary level:

Card 4/

The reaction of the,...

$$\varepsilon_a = - \frac{aD}{\alpha + aD} \cdot \frac{M_0}{1 + \Omega\tau_M} \qquad (32)$$

The nature of the transition process for the conditions $\alpha \ll a + aD$ and $\alpha \gg a + aD$ is discussed, and the response of mitotic activity to chronic constant irradiation shown graphically in Fig. 4. There are 4 figures and 14 references: 3 Soviet-bloc and 11 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: E. P. Cronkite, Radiobiology at the intra-cellular level, p. 197, London, 1959; R. H. Mole, Brit. J. Radiol., 32, 497, 1959; L. Lamerton, Pontifex A., N. Blackett, K. Adams, Brit. J. Radiol., 33, 297, 1960; A. Pontifex, L. Lamerton, Brit. J. Radiol., 33, 736, 1960.

SUBMITTED: March 14, 1961

Card 5/[illegible]

41615
S/205/62/002/005/001/017
D268/D308

27.1220

AUTHOR: Strzhizhovskiy, A.D.

TITLE: On the kinetics of radiation damage to cell populations

PERIODICAL: Radiobiologiya, v. 2, no. 5, 1962, 647 - 653

TEXT: The study of radiation damage in nondifferentiated and differentiated cells is discussed theoretically, two groups of non-differentiated cells being distinguished in irradiated populations: 1) those with undamaged, and 2) those with damaged genetic structures. Duration of normal and pathological mitosis may be determined from the analysis of experimental curves of the transitional processes, as well as from the degree of damage to nuclear and cytoplasmic structures. Determination of comparative radiosensitivity of genetic structures in mitosis and interkinesis is discussed as well as restorative and compensatory processes. The most important changes in differentiated tissue induced by radiation doses not causing direct cellular destruction are: 1) change in the age spectrum of the differentiated cellular population, and 2) change in the to-

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tal number of cells. The age theory can be used to analyze the process of radiation damage to differentiated tissue. Irradiation is shown to cause changes in those parts of the age spectrum corresponding to the times of mitotic activity inhibition. Radiation inhibits the mitotic activity of non-differentiated cells, thus reducing the intensity of cellular displacement from the tissue. As a result the general intensity of cellular displacement declines, while that of natural cell death remains unchanged. Increased elimination of cells from tissue unaccompanied by increased mitotic activity is a clear indication of radiation damage to cells. Experimental determination of changes in total cell numbers in tissue and comparison with the rate of cellular division reveals the rate of cellular elimination from tissue as a time function.

SUBMITTED: December 28, 1961

S/219/62/054/010/003/004
D296/D307

AUTHORS: Mastryukova, V.M. and Strzhizhovskiy, A.D

TITLE: The reaction of the corneal epithelium to local irradiation with different doses of soft x rays

PERIODICAL: Akademiya meditsinskikh nauk SSSR, Byulleten' eksperimental'noy biologii i meditsiny, v.54, no. 10, 1962, 107 - 110

TEXT: The authors studied the mitotic changes in the corneal epithelium of white mice after local irradiation with various doses of soft x rays. Doses of 100 r (296 r/min), 700 r (296 r/min), and 2000 r (800 r/min) were applied at a voltage of 20 kv, at a focus distance of 10 cm, through a 0.1 mm Al filter. The x rays were kept at a degree of softness permitting their complete adsorption in the cornea. The irradiated as well as the control mice were killed simultaneously on the 1st, 3rd, 5th, 7th and 9th day after the exposure. The cornea was fixed in Bouin's

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solution and the sections were stained with Weigert's hematoxylin. For each mouse the number of cells and the number of normal and pathological mitoses was counted in 100 fields of vision. In the control animals the mitotic index reached in the morning (peak of mitotic activity) 8.3 ‰: irradiation suppressed the mitotic index and led to the appearance of pathological mitoses (multinuclear, giant-cells etc.) All 3 doses used decreased the mitotic index and differences became manifest only in the rate of restoration: irradiation blocks the passing of the cells through the full mitotic cycle and prevents regeneration. As the normal process of desquamation continues the number of cells decreases in the experimental animals. Only the dose of 2000 r caused direct radiation damage to the corneal cells. There are 3 figures.

SUBMITTED: August 9, 1961

Card 2/2

S/205/63/003/001/001/029
E065/E485

AUTHORS: Mastryukova, V.M., Strzhizhovskiy, A.D.

TITLE: The effect of the total body X-ray radiation on the process of regeneration of the corneal epithelium

PERIODICAL: Radiobiologiya, v.3, no.1, 1963, 3-7

TEXT: Male white mice, 15 to 20 g, were subjected to X-ray radiation in the total dose of 100, 400 or 700 r (20 r/min) in the РУМ-3 (RUM-3) apparatus (180 kV, 15 mA, filter 0.5 mm Cu + 1 mm Al) at the focal distance of 50 cm. Mitotic counts were made in histological preparations of two reproductive cell layers on the periphery and in the centre of the cornea from radiated and control mice. The total body radiation resulted in a statistically significant suppression of the mitotic activity of corneal epithelium on the 3rd post-radiation day. The suppression was at the highest level with the highest radiation dose. At the same time, the dose dependent increase of chromosomial aberrations in the cornea of radiated mice was already well marked on the first post-radiation day. There are 3 tables.

SUBMITTED: January 15, 1962
Card 1/1

L 17048-63 EWT(m)/BDS/ES(j) AFFTC/ASD/ S/205/63/003/002/006/024
AFWL AR/K

AUTHORS: Mastryukova, V. M., and Strzhizhovskiy, A. D. 56

TITLE: The effect of neutron irradiation on mitotic activity of cornea epithelium 19

PERIODICAL: Radiobiologiya, v. 3, no. 2, 1963, 191-196

TEXT: This work is concerned with the study of certain general trends of the action of radiation on cells and the characteristics of damaging action of neutron radiation. White laboratory mice 15-20 g in weight were totally irradiated in the reactor of 50, 100 and 200 rad. It was found that dose dependence of genetic effect of fast neutrons, characterized by maximum level of chromosome aberrations the first day after irradiation, is exponential in the investigated interval of doses. An analogous curve for X-ray irradiation is linear. The relative biological effectiveness of fast neutrons with respect to retardation of mitotic activity is significantly less than this quantity. It is shown that intensity of death of cells with genetic disruptions is increased. Irradiation causes displacement of cell distribution spectrum according to dimensions towards larger size. This indicates increased radio resistance of all cell growth as compared with the processes of cell division. The article contains 5 tables and a 9-item bibliography.

SUBMITTED: May 21, 1962

Card 1/1

ACCESSION NR: AP3007759 S/0205/63/003/005/0667/0670

AUTHOR: Mastryukova, V. M.; Strzhizhovskiy, A. D.

TITLE: Effect of high energy protons on the physiological regeneration of the cornea epithelium

SOURCE: Radiobiologiya, v. 3, no. 5, 1963, 667-670

TOPIC TAGS: high energy proton irradiation, cornea epithelium, mitosis, chromosome aberrations, radiation dose, genetic effect, relative biological efficiency

ABSTRACT: Experimental male mice were exposed to total high energy proton irradiation of 200 or 500 r on a proton synchrotron. Following irradiation the mice were killed at different periods ranging from 1 to 9 days and control mice were killed for the same periods. The cornea epithelium was stained for microscopic examination. The number of mitoses per 10,000 cells and the number of chromosome aberrations in the anaphase stage were counted for the two lower reproductive layers of cells at the periphery and in the center of the cornea. It was found that 200 and 500 r radiation doses inhibit mitotic activity and decrease the amplitude of daily

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ACCESSION NR: AP3007759

mitotic activity oscillations. This decrease is particularly marked in the period between the 3d and 5th days for the 200 r dose. The number of cells within the microscopic field of vision decreases slightly. The correlation between radiation dose and its genetic effect is linear with a maximum level of chromosome aberrations in the first few days after irradiation. The relative biological efficiency of proton radiation genetically is .6-.7. Orig. art. has: 2 tables.

ASSOCIATION: None

SUBMITTED: 22Dec62 DATE ACQ: 220ct63 ENCL: 00

SUB CODE: AM NO REF SOV: 003 OTHER: 001

Card 2/2

S/219/63/055/002/002/004
D296/D308

AUTHOR: Strzhizhovskiy, A.D.

TITLE: The influence of ionizing radiation upon the processes which restore the blood to its original state following hemorrhage

PERIODICAL: Byulleten' eksperimental'noy biologii i meditsiny, v. 55, no. 2, 1963, 37-41

TEXT: To study the effect of radiation upon the hematopoietic system the author exposed several groups of 10 rabbits to γ-rays, emitted by a Co^{60} apparatus giving a dose of 350 r. Blood was taken from the femoral artery of the rabbits, an amount corresponding to 40% of the total blood volume (2.2% of the animals' weight). The bleeding was performed 1 day before the irradiation and 6 days after it. 1, 8, 15, 22 and 29 days after the bleeding, blood samples were taken and analyzed for hemoglobin levels, red cell count and the red cell diameter distribution curve (Price-Jones curve). The results showed that irradiation before the bleed-

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The influence of ionizing ...

ing suppressed the formation of immature red cells, but bleeding 24 hours before the exposure to radiation, however, had a favorable effect upon erythropoiesis. At the same time disintegration of mature red cells was more rapid than in rabbits in which the bleeding was performed 24 hours after the irradiation. The red cell diameter distribution (Price-Jones) curve altered and ran parallel to the changing proportion of the larger immature red cells. 6 days after exposure to radiation the initial values seemed to be largely restored. There are 3 figures.

PRESENTED: by Academician A.V. Lebedinskiy

SUBMITTED: May 17, 1962

L 8690-65 EWG(j)/EWT(m) SSD/ASD(a)-5/AFWL/AMD/BSD/ESD(t)

ACCESSION NR: AT4008637 S/3039/63/000/000/0157/0165

AUTHOR: Lebedinskiy, A. V.; Mastryukova, V. M.; Strzhizhovskiy, A. D. B

TITLE: Mechanism of the inhibiting effect of ionizing radiation on cell division

SOURCE: Pervichny*ye i nachal'ny*ye protsessy* biologicheskogo deystviya radiatsii. Moscow, 1963, 157-165

TOPIC TAGS: cell division, mitotic activity, ionizing radiation, physiological regeneration, mitotic delay, mitosis, radiation injury, biochemical complex synthesis block, biochemical complex, genetic mechanism block, mitosis radiation effect, irradiation induced mitotic change

ABSTRACT: In a general discussion of the relationship between ionizing radiation, mitotic activity and extracellular influences on nuclear metabolism, based on a review of the literature and their own work, the authors emphasize the effect of neural and hormonal factors on the state of the DNA and point out that radiation can act either by blocking genetic mechanisms, resulting in a sudden irreversible change, or by interfering with the synthesis of biochemical building blocks such as DNA during the resting stage (interkinesis). In order to clarify the mechanism of radiation damage to mitotic activity, they compare theoretical and experimental curves for the inhibition and recovery of mitotic activity in a number of systems.

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They point out that, in theory, the form of the recovery curve depends on the dose of radiation and the degree of damage to the cell:

$$\frac{I_n(t)}{I_0} = e^{-\alpha_1\Delta}(1-e^{-\alpha_1\Delta})\,e^{-\frac{t}{\tau_m}} + 1 - \frac{1+\frac{\alpha}{K}}{1+\frac{e^{-(\alpha_1+\alpha_2)\Delta}+\frac{\alpha}{K}}{1-e^{(\alpha_1+\alpha_2)\Delta}}}\cdot e^{(\alpha+K)t}$$

where I_0 is the mitotic index of non-irradiated tissue; $I_n(t)$ is the mitotic index of normal mitosis at time t; α_1 is the biological effectiveness of radiation with respect to biochemical damage; α_2 is the biological effectiveness with respect to genetic damage; Δ is the dose; τ_m is the average duration of mitosis; k is the probability that a cell will divide in unit time; and α is the probability that a cell will recover in unit time. In support of the hypothesis that biochemical processes during interkinesis are important in determining the response to radiation, the authors cite the work of Skovropskaya et al. with E. coli, which indicated that stimulation of nucleic acid synthesis helps to counteract radiation damage, the work of Libinzon and Konstantinova with liver and bone marrow, the work of Pozdnyakov on the fluorescent staining properties of rabbit conjunctival tissue following stimulation of the afferent nerves, and some of their own work on the effect of desoxycorticosterone on mitosis in mouse corneal epithelium and the lytic effect of ocular fluid from irradiated rabbits on bone marrow cells. They

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ACCESSION NR: AT4008637

conclude that most extracellular influences tend to inhibit mitosis, and that there is little probability of tissue regeneration, even at low doses of radiation. Orig. art. has: 9 figures and 1 formula.

ASSOCIATION: Akademiya meditsinskikh nauk SSSR, Moscow (SSSR Academy of Medical Sciences)

SUBMITTED: 00 ENCL: 00 SUB CODE: LS

NO REF SOV: 011 OTHER: 002

Card 3/3

L 8974-65 EWG(j)/EWT(m) AMD/ESD(t) MLK

ACCESSION NR: AT4044485 S/0000/64/000/000/0023/0028

AUTHOR: Mastryukova, V. M; Strzhizhovskiy, A. D.

TITLE: The influence of neutron radiation on the mitotic activity of corneal epithelium

SOURCE: Vosstanovitel'ny*ye protsessy* pri radiatsionny*kh porazheniyakh (Recovery from radiation injuries); sbornik statey. Moscow, Atomizdat, 1964, 23-28

TOPIC TAGS: corpuscular radiation, neutron radiation, mitosis, cornea, mouse

ABSTRACT: Relatively few investigations have been undertaken to determine the biological effects of neutrons. To this end, white mice were exposed to 50- and 200-r whole body doses of neutron radiation (32 rad/min) in a reactor chamber. Some mice (14%) were exposed to gamma radiation for comparison. Animals were decapitated 1, 3, 5, and 7 days following exposure to radiation. Each group

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ACCESSION NR: AT4044485

consisted of 16 experimental and 5 control animals. Corneal epithelium was fixed and cell counts were conducted in the field of vision and two epithelial layers. Distribution spectra of the size and quantity of 10,000 cells undergoing prophase, metaphase, anaphase, and telophase were determined. It was found that neutrons immediately inhibited mitotic activity, which was later restored at a rate corresponding to the intensity of radiation. Low doses of neutron radiation (50 rad) did not have a statistically selective effect on any one mitotic phase, while larger doses (200 rad) decreased the number of anaphase cells and increased the number of telophase cells. After 5—7 days, 200-rad neutron radiation had decreased the number of prophase and increased the number of metaphase cells. Pathological indices of neutron damage were: increased cell dimension, increased nucleus size during prophase, multipolar mitosis during metaphase, and splitting and fragmentation of chromosomes and chromosome bridges during anaphase and telophase. The analyses lead to the conclusion that neutrons strongly influence cell genetics. Neutron radiation (200 rad) is

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ACCESSION NR: AT4044485

as biologically effective as gamma radiation (750 rad). It was concluded that neutrons prolonged the interphase but not the duration of mitosis. Structural damage by neutron radiation takes place immediately and, if it occurs during anaphase, leads to the destruction of the cell. The viability of giant cells produced during neutron radiation is close to normal. The physiological and genetic effectiveness of neutrons is far greater than the effects of gamma- and x-radiation. Orig. art. has: 5 figures.

ASSOCIATION: none

SUBMITTED: 29Jan64	ATD PRESS: 3105	ENCL: 00
SUB CODE: LS, NP	NO REF SOV: 005	OTHER: 002

Card 3/3

ACCESSION NR: AP4038946 S/0219/64/057/005/0052/0055

AUTHOR: Strzhizhovskiy, A. D (Moscow)

TITLE: The influence of ionizing radiation on the age spectrum of erythrocytes from peripheral rabbit blood

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny*, v. 57, no. 5, 1964, 52-55

TOPIC TAGS: radiation hematology, erythrocyte age spectrum, erythrocyte development, erythrocyte life, erythropoiesis, hemoglobin content, erythrocyte destruction, erythrocyte destruction formula

ABSTRACT: The kinetics of erythrocyte distribution according to erythrocyte age was determined in 20 lots of 10 rabbits subjected to γ-ray doses of 250 and 500 r. Hemoglobin content and erythrocyte count were taken; the erythrocytes were divided into 3 groups according to size (i.e. age). The experimental data obtained were used for calculating the probable intensity of "random" destruction of young and mature cells. Two formulas are presented (see formula (1) enclosure). Results are tabulated. At the 500 r dose no statistically significant change in the dying-off

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ACCESSION NR: AP4038946

of young and mature erythrocytes was observed during the 1-8th day. A short period of increased destruction followed (slightly higher for mature cells), apparently due to acute radiation sickness rather than radiosensitivity of the erythrocytes. The discharge of reticulocytes into the blood, usually triggered by a decrease in its erythrocyte content, was considerably delayed; this was reflected in depressed erythropoietic function. Return to normal was accompanied by increased erythropoiesis, thus an increased number of young erythrocytes and a corresponding decrease of the mean hemoglobin per cell. With the 250 r dose, which does not cause acute radiation sickness, the above process was much less pronounced. It caused however a rapid increase of erythropoiesis which reached $2\frac{1}{2}$ times the normal value on the 33rd day, without concurrent reduction of the circulating erythrocytes. As a result erythrocyte vitality decreased, and the mean probability of dying-off young and mature cells increased considerably after the 19th day. A similarly increased erythropoiesis is seen after massive hemorrhage. Orig. art. has: 2 formulas and 2 tables.

ASSOCIATION: None

Card 2/4

ACCESSION NR: AP4038946

SUBMITTED: 06May63 DATE ACQ: 09Jun64 ENCL: 01

SUB CODE: LS NO REF SOV: 002 OTHER: 008

Card 3/4

ENCLOSURE: 01

ACCESSION NR: AP4038946

$$\frac{n_{io}}{T_i} = \frac{N_o}{T} \; ; \; i = 1,2,3 \qquad (1)$$

where i = 1 is the number of erythrocyte precursors
i = 2 " " young erythrocytes
i = 3 " " mature erythrocytes.

$N_o = \sum_{i=0}^{3} n_{io}$, the total concentration of erythrocyte cells in equilibrium population of peripheral blood

$T = \sum_{i=1}^{3} T_i$, mean cell life

$\frac{1}{T_1}$ (l=1,2), mean probability of maturation of reticulocytes and young erythrocytes per time unit

$\frac{1}{T_3}$, probability of dying of mature cells during the natural aging process

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ACCESSION NR: AP4042357 S/0219/64/058/007/0106/0109

AUTHOR: Mastryukova, V. M.; Strzhizhovskiy, A. D.

TITLE: Effect of ionizing radiation on the 24-hour rhythm of mitotic activity in the corneal epithelium of mice

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny*, v. 58, no. 7, 1964, 106-109

TOPIC TAGS: ionizing radiation, radiation damage, mitotic activity. rhythm, corneal epithelium, local radiation, whole-body radiation, mitotic index, tissue metabolite level, general metabolism damage

ABSTRACT: The effects of local and whole-body irradiation on the 24-hr mitotic activity rhythm of corneal epithelium were investigated in 200 white mice in two experimental series. In the first series the corneal epithelium of mice was exposed to local soft x-irradiation (Dermamobil unit, 30 kv, 15 ma, filter 0.1 mm Al, 1533 r/min) of single 200 and 700 r doses calculated to be almost completely absorbed by the corneal epithelium. In the second series mice were

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ACCESSION NR: AT4042357

x-irradiated (RUM-3 unit, 180 kv, 15 ma, filter 0.5 mm Cu + 1 mm Al, 20 r/min) with whole-body single 200 and 700 r doses. The animals were all irradiated in the morning. Groups of experimental and control mice were decapitated at 8 AM or 8 PM on the 1st, 4th, 7th, and 10th days after irradiation. Preparations made from the cornea were stained with hemotoxylin and the mitotic index was determined by the number of mitoses per 10,000 cells. The mitotic index for the corneal epitholium of control animals was found to fluctuate from 15.75 at 8 AM to 4.18 at 8 PM. With a 200-r local radiation dose, mitotic activity fluctuations of the tissue are completely depressed 24 hr after irradiation, are partially restored by the 4th day, and are completely normal by the 10th day. Mitotic activity fluctuations are similar for a 700 r local radiation dose. For a 200-r whole-body radiation dose the effect is comparable to that of a 200-r local radiation dose, but mitotic activity fluctuation is only partially depressed after 24 hr. With a 700 r whole-body dose mitotic activity fluctuation is even less depressed, but with passing of time the fluctuation amplitude decreases significantly compared to the other mitotic indices. The authors' explanation for the mitotic activity fluctuation is based on the position that there is a relation

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653620010-7"

ACCESSION NR: AP4042357

between mitotic activity of the tissue and the tissue level of "determinant metabolites" necessary for mitosis. A distinction should be made between direct radiation damage and radiation damage of the general metabolism as they relate to "determinant metabolite" synthesis. The authors hypothesize that with local irradiation when general metabolism changes are insignificant, the intensity with which the "determinant metabolites" enter the irradiated tissue is practically unaffected, but the intensity of their utilization by the dividing cells sharply decreases as a result of depressed mitotic activity. This results in an excessive accumulation of "determinant metabolites" in the tissue, the tissue becomes temporarily independent of metabolite synthesis intensity, and mitotic activity fluctuations are depressed. With restoration of mitotic activity the fluctuations become normal. In the case of whole-body irradiation the intensity with which "determinant metabolites" enter the tissues decreases because of general metabolism damage and fewer metabolites accumulate in the tissue during depression of mitotic activity. This explains the incomplete disappearance of fluctuations 24 hr after whole-body irradiation. With a whole-body 700-r dose, general metabolism radiation damage increases with passing of time and the 24-hr

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ACCESSION NR: AP4042357

fluctuations gradually disappear. The 24-hr mitotic activity rhythm appears to reflect the "determinant metabolite" level fluctuations in the tissue resulting from the 24-hr fluctuations in general metabolism intensity. Orig. art. has: 1 table.

ASSOCIATION: None

SUBMITTED: 22Jul63 ATD PRESS: 3077 ENCL: 00

SUB CODE: LS NO REF SOV: 014 OTHER: 001

Card 4/4

STRIZHOVSKIY, A.D.

Effect of ionizing radiation on the duration of mitosis in the corneal epithelium in mice. Radiobiologiia 4 no.4:476-481 '64. (MIRA 17:11)

STEPHANOVICH, A.P.

Radiation method for the determination of the average duration of mitosis. Vest.AMN SSSR 20 no.7:66-71 '65.

(MIRA 18:8)

ACC NR: AT6036650 SOURCE CODE: UR/0000/66/000/000/0275/0276

AUTHOR: Mastryukova, V. M.; Strzhizhovskiy, A. D.

ORG: none

TITLE: Comparative study of the cytogenetic effect of 630-Mev protons and Co^{60} gamma radiation /Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966/

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 275-276

TOPIC TAGS: cosmic radiation biologic effect, ionizing radiation biologic effect, relative biologic efficiency, radiation tissue effect, proton radiation biologic effect

ABSTRACT:

High-energy protons in cosmic radiation can affect regenerative processes in human tissue by suppressing mitotic activity, or by causing pathological mitosis or cellular destruction. Radiation-induced damage to genetic structures can result in pathological developments in the remote-aftereffect period. These phenomena were studied in corneal epithelium (mice) irradiated with 630-Mev protons from an OIYAI synchrocyclotron. Co^{60}

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gamma rays were used for comparison of the RBE and specific biological effect of high-energy protons.

Irradiation of animals with 630-Mev protons in doses of 100, 200, 700, and 1100 rad caused reversible suppression of mitotic activity in corneal epithelium: furthermore, recovery processes proceeded more slowly with increase in the radiation dose. The number of chromosome aberrations increased exponentially with increasing dosage (the average effective dose was 560 rad). Injury of genetic structures severely depressed reproductive capacity, as a result of which pathological mitoses could only be detected in tissue during a comparatively short postradiation period.

Chromosome aberrations were classified and a relationship established between suppression of cellular reproduction and the type of chromosome aberration. Death of cells from radiation-induced genetic injury was a major factor in decreasing the total number of cells in tissue. It was found that there are special cellular mechanisms which can stabilize the overall composition of corneal epithelium under various external conditions.

A comparative study of the reaction of corneal epithelium to Co^{60} gamma rays was conducted. Some features of mitosis recovery curves and some aspects of the distribution of chromosome aberrations are

ACC NR: AT6036650

possibly connected with intracellular repair mechanisms and with remote radiation aftereffects. The RBE of 630-Mev protons (as compared with Co^{60} gamma-rays), estimated by the maximum level of chromosome aberrations, was established as 0.7. The other above-mentioned criteria permit only a semiquantitative estimate, which also set the RBE of protons close to one.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

PHASE I BOOK EXPLOITATION SOV/4553

Vsesoyuznoye ob"yedinennoye soveshchaniye po avtomatizatsii proizvodstvennykh protsessov v mashinostroyenii i avtomatizirovannomu elektroprivodu v promyshlennosti. 3d, Moscow, 1959

Elektroprivod i avtomatizatsiya promyshlennykh ustanovok; trudy soveshchaniya (Electric Drive and Automation in Industrial Systems; Transactions of the Conference) Moscow, Gosenergoizdat, 1960. 470 p. 11,000 copies printed.

General Eds.: I.I. Petrov, A.A. Sirotin, and M.G. Chilikin; Eds.: I.I. Sud, and E.F. Silayev; Tech. Eds.: K.P. Voronin, and G.Ye. Larionov.

PURPOSE: The collection of reports is intended for the scientific and technical personnel of scientific research institutes, plants and schools of higher education.

COVERAGE: The book is a collection of reports submitted by scientific workers at plants, scientific institutes and schools of higher education at the third Joint All-Union Conference on the Automation of Industrial Processes in Machine Building and Automated Electric Drives in Industry held in Moscow on May 12-16, 1959. The Conference was called by the Academy of Sciences USSR, the Gosplan SSSR (State Planning Commission USSR), the GNTK SSSR, the Gosudarstvennyy Komitet po avtomatizatsii i mashinostroyeniyu (State Committee on Automation and Machine Building) and the Natsional'nyy Komitet SSSR po avtomaticheskomu upravleniyu (USSR National Committee on Automatic Controls) and prepared by the Nauchno-tekhnicheskiy komitet po avtomatizirovannomu elektroprivodu (Scientific and Technical Committee on Automated Electric Drives), the MEI (Moscow Institute of Energetics), the VNIIEM, the IAT (Institute of Automation and Telemechanics) of the Academy of Sciences USSR, and the Komissiya po tekhnologii mashinostroyeniya Instituta mashinovedeniya AN SSSR (Commission on the Technology of Machine Building of the Institute of Science of Machines of the Academy of Sciences USSR). It was the purpose of the Editorial Board to arrange the reports in a way which would ensure a relatively systematic presentation of theoretical and practical problems relating to electric drives and automatic controls of industrial mechanisms used in various branches of industry. Basic problems of automated electric drive and their solution are outlined. The book also contains articles on electric machinery and means of automation. Considerable attention is paid to noncontact automatic control systems, including systems with semiconductor devices and magnetic amplifiers, and to computers intended both for the analysis and the synthesis of linear and nonlinear automatic regulation and control systems. Reports already published in journals or official publications have been considerably abbreviated; those which have appeared in volume V of NII EP transactions or in the journal "Elektrichestvo" are marked with an asterisk. No personalities are mentioned. References accompany some of the papers.

PART I. GENERAL PROBLEMS CONCERNING THE THEORY AND PRACTICE OF ELECTRIC DRIVE AND AUTOMATION OF CONTROL

Card 17

STRZHIZHOVSKIY, A.F.

Graphic method for determining the power indices of drives operated on direct current. Bum. prom. 38 no.11:19-20 N '63. (MIRA 17:1)

1. Glavnyy konstruktor po spetsial'nym privodam Gosudarstvennogo instituta po proyektirovaniyu predpriyatiy tsellyuloznoy i bumazhnoy promyshlennosti.

KRIVORUCHKO, M.G.; KURLAT, F.L.; MIKHAYLOV, M.A.; SOKOLOVSKIY, Yu.Ye.; YASTRZHEMBSKIY, L.A., red.; STRZHIZHOVSKIY, F., red.; YANCHUK, A., red.; SHLYK, M., tekhn. red.

[Across the streets of Moscow; guidebook]Po ulitsam Moskvy; putevoditel'. Moskva, Mosk.rabochii, 1962. 429 p. (MIRA 15:9)

1. Rabotniki Moskovskogo gorodskogo ekskursionnogo byuro (for Krivoruchko, Kurlat, Mikhaylov, Sokolovskiy). 2. Direktor Muzeya istorii i rekonstruktsii Moskvy (for Yastrzhembskiy).
(Moscow--Guidebooks)

DVINSKIY, Emmanuil Yakovlevich; STRIZHEVSKIY, F.A., red.; SULTANOVA, N., red.

[Moscow; tourist guide] Moskva; sputnik turista. Izd.3., perer. i dop. Moskva, Mosk. rabochii, 1964. 654 p. (MIRA 17:6)

SMALIK, S.; FRAJTOVA, E.; STRZINEK, M.

Susceptibility to severe reactions following smallpox vaccination in persons with blood group A and AB. Vnitrni lek. 11 no.7:646-650 Jl '65.

1. Fakultna transfuzna stanica v Kosiciach (prednosta MUDr. S. Smalik).

KAFKA, H.; ROTTA, J., s technickou spolupraci ZIROVNICKE, J. a STRZINKOVE, D.

Electrocardiography in rabbits during experiments with streptococci and their products. I. Basic wave formation. Effect of experimental situations on ECG. Cas.lek.cesk 100 no.31:971-975 4 Ag '61.

1. Interni oddeleni fakultni polikliniky v Praze, prednosta prof. MUDr. K. Herfort. Ustav epidemiologie a mikrobiologie v Praze, reditel prof. MUDr. K. Raska.

(STREPTOCOCCAL INFECTIONS exper)
(ELECTROCARDIOGRAPHY)

KAFKA, H.; ROTTA, J., s technickou spolupraci ZIROVNICKE, J.; STRZINKOVE, D.

Electrocardiography in rabbits during experiments with streptococci and their products. II. Effect of streptococcal infections and Shwartzman's reaction on rabbit ECG. Cas.lek.cesk 100 no.31:976-981 4 Ag '61.

1. Interni oddeleni fakultni polikliniky v Praze, prednosta prof. MUDr. K. Herfort Ustav epidemiologie a mikrobiologie v Praze, reditel prof. MUDr. K. Raska.

(STREPTOCOCCAL INFECTIONS exper)
(ALLERGY exper)
(ELECTROCARDIOGRAPHY)

[illegible], J.; [illegible], Z.

"A bactericidal serum substance unrelated to its complement. I. Basic characteristics of bacteriocidin."

[illegible], Prahe, Czechoslovakia, Vol. 3, no. 6, 1 59

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept 59
Uncles

DUTKIEWICZ, J.S.; GIEC, L.; ROZMUS, J.; STRZODA, L.

Changes in the circulatory system and in respiration in man exposed to increases invironmental temperature at rest; effect of dry heat. Acta physiol. polon 6 no.4:387-400 1955.

1. Z Sekcji Fizjologii Pracy Inst. med. Pracy w Przem. Weglowym i Hytniczmy w Rokitnicy. Kierownik: prof. dr. Br. Zawadzki Z III Lkiniki Chorob Wewnetrznych Slaskiej A.M. w Bytomiu Kierownik: prof. dr K. Gibinski. Prace doswiadzalne wykonano w Osrodku Badan Lekarskich Ratownikow przy Stacji Ratownictwa Gornicnego PW w Bytomiu.

(HEAT, effect,
on blood & resp.
on blood picture, hemodynamics & resp. (Pol))
(BLOOD CIRCULATION,
hemodynamics, eff. of dry heat (Pol))
(BLOOD CELLS,
count, eff. of dry heat)
(RESPIRATION,
eff. of dry heat (Pol))

DUTKIEWICZ, J. S.; GIEC, L.; KRAUSE, M.; STRZODA, L.

Remote changes in man at rest exposed to dry heat. Acta physiol. polon. 7 no.2:159-168 1956.

1. Z Sekcji Fizjologii Pracy Instytutu Medycyny Pracy w P. W. i H. Zabrze-Rokitnica Kierownik: prof. dr. Br. Zawadzki Z III Kliniki Chorob Wewnetrznych Slaskiej A.M. w Bytomiu Kierownik: prof. dr. K. Gibinski.

(HEAT, effects,
on man at rest (Pol))

POLAND/Human and Animal Physiology - Physiology of Work and Sport. T-12

Abs Jour : Ref Zhur - Biol., No 7, 1958, 32298

Author : Dutkiewicz, J.S., Giec. L., Drause, M., Strzoda, L., Zygmunt, M.

Inst :
Title : Changes in Human Organism During Work in Conditions of Dry Heat in an Insulated Gasmask and Without It.

Orig Pub : Acta physiol. polon., 1956, 7, No 2, 169-184.

Abstract : In 130 healthy mining rescuers in a chamber with a temperature of 39-47° and low humidity and with radiation and movement of air, the hemodynamic was studied both at rest and during performance of standard physical work in the course of 2 hours. In 49 rescuers working without gasmasks, there was noted an average a drop in the weight of 1.45 ± 0.05 kg, rise of oral temperature to 37.56 ± 0.07°, armpit temperature 37.5° ± 0.08°, rectal 38.1 ± 0.11°.

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POLAND/Human and Animal Physiology - Physiology of Work and Sport. T-12

Abs Jour : Ref Zhur - Biol., No 7, 1958, 32298

The O_2-enriched air which the tested rescuers breathed in the insulated gasmask exerted a normal influence on the organism of the workers.

Card 2/2

KRAUSE, M.; STRZODA, I.

Biochemical changes in brain during thermal stress. Acta physiol. polon. 10 no.6:677-684 N-D '59.

1. From the Institute of Occupational Medicine in the Mining and Metalurgical Industries. Director: Prof. B. Nowakowski, M.D. and the Department of Physiology of the Silesian Medical School. Acting Head: M. Krause M.D.
(HEAT eff.)
(BRAIN chem.)

STRZODA, Lucjan

Effect of high temperatures on the central nervous system — changes in the concentration of noradrenalin and adrenlin in the brain stem in animals exposed to high temperatures. Acta physiol. polon. 13 no.2:253-262 '62.

1. Z Zakladu Fizjologii Slaskiej AM w Zabrzu-Rokitnicy Kierownik: doc. dr M.Krause Z Instytutu Medycyny Pracy w Przemysle Weglowym i Hutniczym w Zabrzu-Rokitnicy Dyrektor: doc. dr. J. Nofer.

(EPINEPHRINE metab) (NOREPINEPHRINE metab)
(BRAIN STEM metab) (HEAT)

POLAND/Physical Chemistry - Thermodynamics. Thermochemistry. B-8
Equilibrium. Physicochemical analysis. Phase Transitions

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 3698

Author : Smolenski Dionizy, Strzondala Jadwiga
Inst : Wroclaw Polytechnic
Title : Heat of Formation of Nitrostarch

Orig Pub : Zesz. nauk. Politechn. wrocl., 1954, No 4, 49-56

Abstract : Calorimetric determinations were carried out of the combustion heat of nitrostarch (I), prepared by nitration of starch with nitric acid or with a mixture of nitric and sulfuric acid. Investigated were samples of different degree of esterification, containing from 10.52 to 13.34% N. From the experimentally determined values of the heat of combustion were calculated the heat of formation (HF) values of I; the linear nature of the correlation between HF and degree of esterification has been ascertained. HF of I obtained by action of HNO_3 is lower

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[redacted]

[redacted] equal molecular
[redacted] mixtures of [redacted] by means [redacted] mass spectrometer.
[redacted]

[redacted]

SYKOROVA, D.; STRZONDALOVA, H.; KENKA, J.

Expreiences in the analysis of causes of low dental caries incidence in children from children's homes in the district of Karvinna. Cesk. stomat. 65 no.3:220-227 My'65.

1. Detske zubni stredisko nemocnice s poliklinikou v Karvine; Oddeleni hygieny vyzivy Obvodniho ustavu narodniho zdravi v Karvine.

STRZYCKA, Maria

Epileptic seizures in barbiturate addiction. Neurol. neurochir. psychiat. pol. 12 no.1:73-77 '62.

1. Z Kliniki Psychiatrycznej AM we Wroclawiu Kierownik: doc. dr M. Demianowska.

(EPILEPSY etiol) (BARBITURATES addiction)

FRYSZMAN, A.; STRZYZ, T.; WASINSKI, M.

On a mechnism of breakdown in high vacuum. Bul Ac Pol tech 8 no.7: 379-383 '60. (EEAI 10:3)

1. Oscilloscope Lamp Factory, Iwiczna near Warsaw. Presented by J.Groszkowski
(Vacuum) (Electron tubes)

P/053/62/000/012/004/011
E192/E382

AUTHORS: Wasiński, Mirosław, Strzyż, Zofia and Fryszman, Aleksander

TITLE: A breakdown mechanism in high vacuum

PERIODICAL: Przegląd elektroniki, no. 12, 1962, 694 - 697

TEXT: Numerous observations on oscilloscope tubes have shown that the breakdowns encountered in them had the features of an arc discharge caused by cold emission. The breakdowns occurred near the negative electrode at the glass or ceramic surface. The breakdowns were preceded by blue luminescence of glass or pinkish luminescence of ceramics, caused by bombardment of the surface by cold-emission electrons. However, calculations have shown that in this case (by using the Nordheim formula) the current densities which could be produced in the tubes were insufficient for initiating an arc discharge. The following hypothesis explaining the breakdown mechanism was therefore formulated. The region between the electrodes supported by the ceramic or glass contains free electrons produced by cold emission. These are accelerated and attracted towards the "positive" electrode. Depending on the

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direction and their initial velocity, the electrons either reach the positive electrode or bombard the surface of the insulator in the vicinity of this electrode. The surface of the insulator is charged positively to the potential near to that of the positive electrode due to the fact that their secondary-emission coefficient at these voltages is greater than unity. The field strength near the negative electrode thus increases gradually until it reaches a value sufficient for producing a cold-emission arc. At the instant of the appearance of the arc, the surface of the insulator is discharged, the field decreases, the arc is extinguished and the process can be repeated. After several breakdowns, the leakages on the surface of the insulator become greater than the secondary-emission currents (due to the sputter of the emitter material) and the process comes to an end. The hypothesis was verified experimentally by using a special oscilloscope tube in which the test electrodes were made in the form of two rings of colloidal graphite deposited on the internal walls of the glass envelope. The experiments showed that in order to prevent breakdown in high vacuum it was necessary to: 1) employ insulators with leakages greater than the possible secondary-emission current; 2) employ

insulators with a secondary-emission coefficient lower than unity; 3) coat the surface of the insulator in the vicinity of the negative electrode with a semiconductor layer and 4) screen part of the surface of the insulator near the negative electrode. There are 5 figures and 1 table.

ASSOCIATION: Zakłady Lamp Oscyloskopowych
(Oscilloscope Tube Works)

STRZYŻ, Anna

Sulfur and associated minerals in the foreland of the Carpathian foredeep. Kwartalnik geol 5 no.4:891-898 '61.

1. Zaklad Petrografii i Geochemii, Instytut Geologiczny, Warszawa.

Distr: 4E2c/4E3d

Spectrographic determination of uranium in ores and residues from leaching by the powder sifting method in the alternating-current arc. J. Czakow, Z. Radwan, and B. Strzyżewska (Inst. Badań Jądrowych, Warsaw). *Nukleonika* 3, Spec. No. 67–73(1958)(in English).—Samples of dry U ore weighing 350 mg., grained to 0.06 mm. and mixed with graphite powder in a ratio of 1:3, were placed in the (upper) sifter Cu electrode (Feldman and Ellenburg, *C.A.* 50, 2355g). The holes were adjusted to 30–45 sec. exposures, at a current of 6 amp., with a Swienticki a.-c. arc generator either with 30-w. transformer or with a conventional 400 w. one. Spectrograph ISP 51 with camera UF 84, 10 slit width, 4 mm. analytical gap, was used. The analytical line was 4090.14 A., the internal standard was the 4086.025 A. line of Mo. Mo was added in different amts., 0.125 and 0.5% for 0.001–0.01 and 0.01–0.1% of U, to depress the intensity of the analytical line. The detn. was done in a O-Ar (1:1) atm. The vessel used in the detn. is described. Accuracy was 2.8% at 95% confidence level in 14 detns. L. Stecki

Strzyżewska, B.

Distr: 4E2c/4E3d

Spectrographic determination of uranium in ores and residues from leaching by the powder sifting method in the alternating-current arc. Julian Czaków, Zofia Radwan, and Bozena Strzyżewska (Inst. Nuclear Research, Warsaw). *Proc. UN Intern. Conf. Peaceful Uses At. Energy, 2nd, Geneva, 1958* 3, 561–4.—See *C.A.* 53, 4006*h*. N.

Strzyzewska, B.; Radwan, Z.

Direct spectrographic determination of uranium in residues after ore leaching. p. 737.

CHEMIA ANALITYCZNA. (Komisja Analityczna Polskiej Akademii Nauk i Naczelna Organizacja Techniczna).

Warszawa, Poland, Vol. 3, no. 5/6, 1958.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 8, August 1959. Uncla.

CZAKOW, Julian; RADWAN, Zofia; STRZYZEWSKA, Bozena

Spectrographic determination of uranium in ores and residues after leaching, using the sifter method in the alternating current arc. Chem anal 4 no.5/6:819-828 '59. (EEAI 9:9)

1. Zaklad Chemii Analitycznej Instytutu Badan Jadrowych Polskiej Akademii Nauk, Warszawa. Kierownik Zakladu: prof. dr. Jerzy Minczewski.
(Uranium)

STRZYZEWSKA, Bozena

Speedy spectrographic determination of uranium in ores by using the powder-sifting method. Chem anal 5 no.2:277-281 '60. (EEAI 10:3)

1. Zaklad Chemii Analitycznej Instytutu Badan Jadrowych PAN Warszawa, Kierownik Zakladu: Prof. dr. Jerzy Minczewski.
(Spectrograph) (Uranium)

RADWAN, Zofia; STRZYZEWSKA, Bozena; MINCZEWSKI, Jerzy

Spectrographic determination of trace amounts of rare earths. I.
Chem anal 5 no.6:935-949 '60. (EEAI 10:9)

1. Department of Analytical Chemistry, Institute of Nuclear Research, Polish Academy of Sciences, Warsaw.

(Earths, Rare) (Spectrum analysis)

RADWAN, Zofia (Warszawa 9, (Zeran), ut. Dorodna 16)); STRZYZEWSKA, Bozena (Warszawa 9, (Zeran), ut. Dorodna 16)); MINCZEWSKI, Jerzy, prof.,dr. (Warszawa 9, (Zeran), ut. Dorodna 16))

Spectrographic determination of rare earth traces. Acta chimica Hung 28 no.1/3:49-58 '61. (EEAI 10:9)

1. Institut fur Kernforschung der Polnischen Akademie der Wissenschaften, Warszawa.

(Earths, Rare) (Spectrum analysis)

S/081/62/000/024/030/073
B193/B186

AUTHORS: Radwan, Zofia, Strzyżewska, Bożena, Minczewski, Jerzy

TITLE: The spectral determination of trace quantities of rare earth elements by a fractional distillation method

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1962, 232, abstract 24D101 (Chem. analit. (Polska), v. 6, no. 6, 1961, 959-967 [Pol.; summary in Eng.])

TEXT: A method of spectral determination of Eu, La, Y, Nd, Pr, Sm in 5 N HCl solutions is described. The solution to be analyzed, with a volume 2 ml + 1 ml $Zr(NO_3)_4$ solution containing 10 γ/ml Zr, is evaporated at 200° with 1 g powdered graphite. 2% CsF as carrier is then added to the powder and the mixture is ground in an agate mortar for 20 min. A sample (40 mg) is placed in the channel of a graphite electrode 8 mm deep and 3.2 mm in diam. The upper electrode terminates in a cone (20°). The spectra are excited in a d-c arc (6 a) with anode operation. The electrode spacing is 5 mm. The spectra are photographed for 15 sec with a mixture of 80%

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RADWAN, Zofia, mgr; STRZYŻEWSKA, Bozena, mgr

Spectrographic determination of lanthanum, neodymium, and praseodymium in highly pure cerium compounds. Chem anal 9 no.2:297-302 '64.

1. Instytut Badan Jadrowych, Zaklad Chemii Analitycznej, Warszawa.

POLAND

STRZYZEWSKA, Bozena, Mgr.

Department of Analytical Chemistry, Nuclear Research Institute (Zaklad Chemii Analitycznej Instytutu Badan Jadrowych), Warsaw.

Warsaw, Chemia analityczna, No 5, September-October 1963, pp787-802.

"Separation of Spectra in Time."

POLAND

STRZYZEWSKA, Bozena, mgr; RADWAN, Zofia, mgr

Dept. of Analytical Chemistry, Nuclear Research Institute (Zaklad Chemii Analitycznej Instytutu Badan Jadrowych), Warsaw (for both)

Warsaw, Chemia Analityczna, No 5, Sept/Oct 1966, pp 979-988

"Hermetization of analytical operations during spectrographic testing of high-purity materials."

STRZYZEWSKI, C.

Effect of the visibility of the net on its usefulness, p. 5. (GOSPODARKA RYBNA, Warszawa, Vol. 7, no. 2, Feb. 1955.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, Jan. 1955, Uncl.

SENGER, Alfons; KROL, Jerzy; STRZYZEWSKI, Hieronim

Application of apparatus to the lower extremities in Heine-Medin disease and its relation to paralytic syndromes. Chir. narz. ruchu ortop. polska 19 no.2:189-194 1954.

1. Z Kliniki Ortopedycznej Akademii Medycznej w Poznaniu. Kierownik: prof. dr W.Dega.
(POLIOMYELITIS, therapy,
*orthopedic appar., relation to types of paralysis)
(ORTHOPEDICS, apparatus and instruments,
*ther. of paralysis in polio.)

STRZYZEWSKI, Hieronim

Appliance for patients with Heine-Medin disease according to experiments of the Panstwowa Wytwornia Protez in Poznan. Chir. narz. ruchu ortop. polska 19 no.4:303-307 1954.

1. Z Kliniki Ortopedycznej Akademii Medycznej w Poznaniu. Kierownik: prof. dr W.Dega. i z Panstwowej Wytworni Protez w Poznaniu. Kierownik: B.Luczewski.

(POLIOMYELITIS, therapy, orthopedic appar.)
(ORTHOPEDICS, apparatus and instruments, ther. of polio.)

STRZYEWSKI, H., KROL, J.: BERNARDCZYK, K, MIEDZYBLOCKI, W., LUCZEWSKI, B.

Evaluation of conditions following amputation ofthe foot with special reference to functional conditions and to orthopedic appliance. Chir.narz. ruchu 20 no.3:296-230 '55.

1. Z Dzialu Naukowo-Doswiadczalnego Zarzadu Przemystu Ortopedyczn w Poznaniu, Kierownik: prof. dr W. Dega, i z Kliniki Ortopedycznej A M w Poznaniu, Kierownik: prof. dr W. Dega. Posnan, ul. Dzierzynskiego 135.

(AMPUTATION,
foot funct.rehabil. & orthopedic appliance)
(FOOT, surgery,
amputation, funct. rehabil. & orthopedic appliance)

BERNARDCZYK, Karol; STRUHALSKI, Hieronim

Prophylactic shoes for children in prevention of the development of flat foot. Chir. narz. ruchu 22 no.1:85-90 1957.

1. Z Kliniki Ortopedycznej A. M. w Poznaniu. Kierownik: prof dr W Dega. Adres autorow: Poznan, Dzierzynskiego 135.
(FLATFOOT, in inf. & child
prev. with specially designed shoes (Pol))

STRZYZEWSKI, Hieronim; KROL, Jerzy

Clinical documentation of scoliosis. Chir. narz. ruchu 22 no.2:169-174 1957.

1. Z Kliniki Ortopedycznej A. M. w Poznaniu Kierownik: prof. dr W. Dega. Poznan, ul. Dzierzynskiego 135.

(SCOLIOSIS,
modified Cobb's form for clin. record (Pol))
(RECORDS, MEDICAL
modified Cobb's form for clin. records of soliosis (Pol))

STRZYZEWSKI, Hieronim; BERNARDCZYK, Karol; NIEDZWIECKI, Jerzy

Indications for & methods of treatment of idiopathic scoliosis with corrective plaster casts. Chir. narz. ruchu 22 no.2:221-224 1957.

1. Z Kliniki Ortopedycznej A. M. w Poznzniu Kierownik: prof. dr W. Dega Poznan, Dzierzynskiego 135.
(SCOLIOSIS, ther.
plaster casts in management of idiopathic scoliosis (Pol))

BERNARDCZYKOWA, Anna; STRZYZEWSKI, Hieronim

Torticollis ocularis. Chir. narz. ruchu 13 no.2:141-145 1958.

1. Z Kliniki Ortopedycznej A. M. w Poznaniu Kierownik: prof. dr W. Dega Z Kliniki Chorob Oczu A. M. w Poznaniu Kierownik: prof. dr. A. Kwaskowski Poznan, ul. Dluga 1/2, Klinika Oczna.

(TORTICOLLIS, etiology & pathogenesis
paralysis of oculomotor musc., diag. (Pol))
(MUSCLES, OCULOMOTOR, paralysis
causing torticollis, diag. (Pol))

STRZYZEWSKI, Hieronim; BERNARDCZYK, Karol; ZUK, Aleksander

Cineplasty of the biceps brachii in a patient with forearm amputation. Chir. narz. ruchu ortop. polska 26 no.6:765-769 '61.

1. Z Kliniki Ortopedycznej AM w Poznaniu Kierownik: prof. dr W.Dega.
(AMPUTATION STUMP surg)

DEGA, W.; KROL, J.; STRZYZEWSKI, H.

Surgical treatment of scoliosis. Acta chir. orthop. traum. cech. 29 no.5:424-427 O '62.

1. Ortopedicka klinika lekarske akademie v Poznani, Polsko.
(SCOLIOSIS) (BONE TRANSPLANTATION)

STELTZEWSKI, Hieronim

Some surgical aspects of hand therapy in rheumatoid patients. Chir. narzad. ruchu ortop. Pol. 28 no.7[illegible] '63

1. Z Kliniki Ortopedycznej Akademii Medycznej w Poznaniu (Kierownik: prof. dr. W. Daga).

STRZYZEWSKI, Janusz; WENCLEWSKI, Alojzy

Osmotic erythrocyte resistance and the volume of erythrocyte mass in serological conflicts. Gin. polska 27 no.6:791-794 Nov-Dec 56.

1. Z Kliniki Poloznictwa i Chorob Kobiecych A.M. w Poznaniu Kier.: prof. dr. med. I. Roszkowski, Poznan, Polna 33.
(ERYTHROBLASTOSIS, FETAL, blood in,
osmotic erythrocyte resist. & volume of erythrocyte mass (Pol))

STRZYZEWSKI, Janusz, mgr. inz.

From the activities of the Polish Lighting Committee. Przegl elektrotechn 38 no.7:316 Jl '62.

STRZYZEWSKI, Janusz, mgr. inż.

Testing electric lighting in textile plants. Przegl elektrotechn 39 no.7:277-279 Jl '63.

STRZYZEWSKI, Janusz

Studies on amniotic fluid proteins in normal and complicated pregnancies Poznan. tow. przyjac. nauk wydz. lek. 30:199-218 '65